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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/786,685	02/25/2004	Sundar Mohan Rao	RD8470 US NA	3025

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EXAMINER

EINSMANN, MARGARET V

ART UNIT	PAPER NUMBER
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1751

DATE MAILED: 11/09/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/786,685

Applicant(s)

RAO, SUNDAR MOHAN

Examiner

Margaret Einsmann

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-46 is/are pending in the application.
- 4a) Of the above claim(s) 15-46 is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-14 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. ____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- ☒ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 3/17/05.
- ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____.
- ☐ Notice of Informal Patent Application (PTO-152)
- ☐ Other: ____.

DETAILED ACTION

Restriction to one of the following inventions is required under 35 U.S.C. 121:

- I. Claims 1-14, drawn to a fiber, classified in class 8 subclass 485,489,637.1,
- II. Claims 15-25 and 38 and 39, drawn to a method of producing a fiber and the fiber produced, classified in class 264, subclasses 78,211 and others.
- III. Claims 26-37, drawn to a method of producing a carpet, classified in class 28, subclasses 214 and 216.
- IV. Claims 40-46, drawn to a method of producing an article from yarn, classified in class 8, subclass 494 and others.

The inventions are distinct, each from the other because of the following reasons:

Inventions II and I are related as process of making and product made. The inventions are distinct if either or both of the following can be shown: (1) that the process as claimed can be used to make other and materially different product or (2) that the product as claimed can be made by another and materially different process (MPEP § 806.05(f)). In the instant case the product can be made by color dyeing the extruded product which had been pigmented with carbon black.

Inventions I and either III or IV are related as product and process of use. The inventions can be shown to be distinct if either or both of the following can be shown: (1) the process for using the product as claimed can be practiced with another materially different product or (2) the product as claimed can be used in a materially different process of using that product (MPEP § 806.05(h)). In the instant case the fiber of group

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I can be used in either the process of group III, making a carpet by tufting, or the or the process of group IV, making a product by forming yarn into a fabric.

Groups II, III and IV are unrelated processes which have in common the pigmented product of group I.

Because these inventions are distinct for the reasons given above and have acquired a separate status in the art as shown by their different classification, restriction for examination purposes as indicated is proper.

Because these inventions are distinct for the reasons given above and the search required for one Group is not required for the other Groups, restriction for examination purposes as indicated is proper.

During a telephone conversation with Charles Krukiel on 11/3/04 a provisional election was made without traverse to prosecute the invention of group I, claims 1-14. Affirmation of this election must be made by applicant in replying to this Office action. Claims 15-46 are withdrawn from further consideration by the examiner, 37 CFR 1.142(b), as being drawn to a non-elected invention.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

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Claims 1-14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Locke et al., US 5,756,020 in view of Reinehr et al., US 4,087,494 and Hixon et al., US 5,445,653.

Locke et al. disclose a process of producing solution dyed extruded fibers wherein several colorants are mixed to form a large variety of colored polymer products. In the example in column 4, nylon 66 is colored "Weathered Tan" by mixing black, white, yellow and red pigments into the nylon 66 prior to spinning. These are the colors of the pigments added to the claimed process in applicant's claims. Regarding claim 7, Locke et al. discloses that copolymers of nylon containing 1-4% of the sodium salt of 5-sulfoisophthalic acid (cationically dyeable) nylon are particularly useful. Col 3 lines 15-17. Locke does not teach overdyeing, nor the particularly claimed amount of color pigment added or the particular pigments as claimed.

Reinehr et al. disclose a process of incorporating carbon black pigment into a polymer before spinning and extruding, and then overdyeing.. They state that this method makes it possible to save considerable amounts of dyestuff. See abstract.

Hixon et al. states at col 1 lines 37 et seq. that incorporating pigments into nylon at the time the filaments are produced provides solution-dyed nylon in which the coloring will not wash out or bleed during further dyeing treatments, and that said nylon may be overdyed. He states that the problem with this process is that solution dyed nylon comes in only a few solid colors, which limits the creation of designs.

It would have been obvious to the man having skill in the art at the time the invention was made to overdye the pigmented nylon 66 produced by the process of

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Locke et al. and thereby produce the claimed product because both Hixon and Reinehr teach advantages of pigmenting thermoplastic fibers before spinning and then over dyeing. Reinehr teaches in the abstract the first advantage in the abstract where it is stated that over dyeing carbon black pigmented fibers save a considerable amount of dyestuff. The examiner notes that the trichromatic system of dyeing is a system of mixing blue, red and yellow to formulate a wide variety of neutral shades including black. Accordingly the addition of the trichromatic mixture of pigments as claimed is akin to adding a black pigment to the solution of nylon. Regarding another advantage of the process of over dyeing pigmented polymers, Hixon teaches that optimum styling effects may be achieved by over dyeing solution dyed nylon, and discloses the need for a larger variety of colors of solution dyed nylon, which is the problem solved by Locke et al. Regarding the claimed amount of pigment added to the polymer in claims 2 and 3, a chemical engineer in the solution dyeing art has the experience and knowledge necessary to adjust the amount of pigment to achieve his desired shading effects. Regarding claim 8, a dye chemist knows that a polymer must be dyed with a compatible dye, for example, if the polymer is cationic dyeable nylon, a cationic dye will be used. Regarding the particular pigments claimed in claims 9-11, Locke does not disclose which pigments may be used. Accordingly, the process is deemed open to any and all pigments absent evidence to the contrary. Regarding claim 12, Locke does not name the white pigment in his example; however, titanium dioxide is the most widely used white pigment. Regarding the limitations of claims 13 and 14, Hixon et al. discloses that

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said solution dyed overdyed nylon is appropriate for yarns used in carpets and upholstery fabric. See col 1 line 12 and 13.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Margaret Einsmann whose telephone number is 571-272-1314. The examiner can normally be reached on 7:00 AM -4:30 PM M-W and alternate Fridays.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Yogendra Gupta can be reached on 571-272-1316. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

11/7/05


Margaret Einsmann
Primary Examiner
Art Unit 1751